REMARKS

Claims 1-15 are currently pending in the present application. The specification of the disclosure was objected to because the term "919" and "944" on paragraph [0321] lines 2-3 for addressing Fig. 16-b and Fig. 16-c reference numeral should be suggested to change to "1919" and "1944" respectively. Claims 6-9, 13, and 15 were objected to because of informalities. Claim 1 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 2 were rejected under 35 U.S.C. §103(a) as being unpatentable over Black et al. in view of Global Engineering ("Fibre Channel Arbitrated Loop (FC-AL-2)", T11/Project 1133D/Rev 7.0). Claims 3-6 (and, as understood by the Applicants, claims 7-15) were rejected under 35 U.S.C. §103(a) as being unpatentable over Black in view of Global Engineering, and further in view of Soloway et al.

Claims 1, 6, 7, 9, 12, 13, and 15 have been amended. Reconsideration and reexamination of the application in view of the amendments and following remarks are respectfully requested.

The specification of the disclosure was objected to because the term "919" and "944" on paragraph [0321] lines 2-3 for addressing Fig. 16-b and Fig. 16-c reference numeral should be suggested to change to "1919" and "1944" respectively.

The disclosure has been amended to correct "919" and "944" in paragraph [0322] and now reads "1919" and "1944" respectively. Further, the specification has been amended and now includes U.S. Patent Application Number 10/612,753 in the reference to "Method and Apparatus for Switching Fibre Channel Arbitrated Loop Devices" on page 1, line 8 of the specification. The disclosure has also been amended to correct "the port 112" in paragraph [0381] and now reads "through 112 the port." With these amendments, it is respectfully submitted that the objection to the specification has been overcome.

Claims 6-9, 13, and 15 were objected to because of informalities. In particular, Applicants were requested to spell out the abbreviations of "OPN", "SCSI", and "ALPA" in corresponding claims 6-9, 13, and 15.

Claim 6 has been amended to now spell out "OPN" as "OPEN Fibre Channel primitive." Claims 7 and 9 have been amended to now spell out "SCSI" as "Small Computer System Interface." Claims 13 and 15 have been amended to now spell out "ALPA" as "Arbitrated Loop Physical Address."

Because claim 8 depends from claim 7, Applicants respectfully submit that the objection to claim 8 has also been overcome. With these amendments, it is respectfully submitted that the objection to the disclosure has been overcome.

Claim 1 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, Claim 1 was rejected because of insufficient antecedent basis for the limitation that recited "... transfer frames on both ports" in line 11.

Claim 1 has been amended and now recites "... transfer frames through at least two of the plurality of ports." In addition, claim 1 has been amended to include antecedent basis for the phrase "plurality of ports." With this amendment, it is respectfully submitted that the rejection to this claim has been overcome.

Claims 1 and 2 were rejected under 35 U.S.C. §103(a) as being unpatentable over Black in view of Global Engineering. This rejection is respectfully traversed.

The present invention is directed to a new method and apparatus for trunking in a system comprising of a plurality of Fibre Channel Arbitrated Loop (FCAL) switches. Trunking uses multiple connections between Loop Switches to provide increased bandwidth. In one embodiment of the present invention, first and second loop switches are interconnected by multiple interswitch links. The first loop switch can transfer frames to a second loop switch through a plurality of the first loop switch's ports that are interconnected to a plurality of ports at the second loop switch.

In particular, amended claim 1 now recites "wherein the first and second Fibre Channel Arbitrated Loop switches are interconnected by multiple interswitch links and transfer frames through at least two of the plurality of ports on each switch."

Black is silent on interconnecting first and second Fibre Channel Arbitrated Loop switches with multiple interswitch links as recited in claim 1. Instead, Black is only seen to disclose a FCAL switch coupled to an FCAL loop or an NL_port node. (See Global Engineering, p. 4 (An NL_port is a node port "which contains the Loop Port State Machine" as defined by the Global Engineering document)). As Examiner acknowledged in the Detailed Action, at page 5, Black "fails to teach a system having a first Fibre channel arbitrated loop switch, a second Fibre channel arbitrated loop switch and these first and second loop switches are interconnected by two or more FCAL links and transfer frames on both ports."

Global Engineering also fails to disclose, teach or suggest this limitation. Global Engineering is seen to disclose switch port initialization between a port on a first switch and a port on a second switch. In particular, note that the two switches are connected together through a *single* port at each switch in Figure Q.1 on page 132. As a result, Global Engineering fails to disclose interconnecting a first and second Fibre Channel Arbitrated Loop switches by multiple interswitch links such that a first FCAL switch can transfer frames though a plurality of the first switch's ports to a second FCAL switch. Because Global Engineering and Black are silent in regards to trunking in FCAL systems, neither can provide any disclosure, teaching, suggestion, or motivation for trunking.

Because neither Black nor Global Engineering, alone or in combination, discloses, teaches, or suggests all of the limitations of claim 1, it is respectfully submitted that rejection of those claims under 35 U.S.C. §103(a) as being unpatentable over Black in view of Global Engineering has been traversed. In addition, because claim 2 depends from claim 1, the rejection of claim 2 has been traversed for the same reasons provided above with respect to claim 1.

Claims 3-6 (and, as understood by the Applicants, claims 7-15) were rejected under 35 U.S.C. §103(a) as being unpatentable over Black in view of Global Engineering, and further in view of Soloway. This rejection is also respectfully traversed.

The present invention is also directed to trunking for a system of interconnected FCAL switches through trunk groups and specifically avoiding invalid loop topologies. "Any initiator that is located on a port that is not part of a trunk group is determined to belong to a [given] Loop Switch for purposes of load balancing." Paragraph [0341] of the Specification. "Additionally, if an initiator is detected on one trunk group, the software must assign that initiator to any other trunk groups on that Loop Switch." *Id.* Also, the present invention avoids invalid loop topology in both hub emulation mode and switching (segmenting) mode. In one embodiment, ports designated as duplicates are specifically bypassed during hub emulation mode. Further, the present invention supports multiple duplicate cascades between Loop Switches in switching mode to increase throughput between adjacent Loop Switches without creating an invalid loop topology.

As discussed above with respect to claim 1, neither Black nor Global Engineering, alone or in combination, discloses, teaches, or suggests "first and second Fibre Channel Arbitrated Loop switches . . . interconnected by multiple interswitch links [that] transfer frames through at least two of the plurality of ports on each switch." In other words, neither Black nor Global Engineering discloses, teaches or suggests trunking for a system of interconnected Fibre Channel Arbitrated Loop switches.

In addition, claim 3, which depends from claim 1, recites "a trunk grouping table."

Soloway fails to make up for the deficiencies of Black and Global Engineering. In particular, Soloway also fails to disclose "first and second Fibre Channel Arbitrated Loop switches . . . interconnected by multiple interswitch links [that] transfer frames through at least two of the plurality of ports on each switch," or a "trunk grouping table" as recited in claims 1 and 3. Instead, Soloway is seen to disclose trunking inter-switch links through the evaluation of a cost function across multiple redundant links. In Soloway, "a protocol within a switch monitors various local usage statistics and periodically adjusts routing tables to move data 'flows' from congested links to

lightly loaded links." (Column 6, lines 31-35). "A significant feature of [Soloway] is that routing and re-routing decisions are preferably made on a flow-by-flow basis rather than frame-by-frame basis." (Column 6, lines 48-50).

Further, Soloway teaches away from the use of "trunk groups" and states that "there is no need to manually configure the [interswitch links] into 'trunk groups' of redundant links that can offload each other." (Column 7, lines 29-31). Therefore, Soloway does not disclose trunking for a system of interconnected FCAL switches through a trunk grouping table or for the purposes of avoiding invalid loop topologies. On the other hand, the present invention detects initiator ALPAs and load balances the initiators, such that each initiator should have one entry in trunk grouping for each set of Primary/Duplicate(s) Cascades

Therefore, because neither Black, Global Engineering, nor Soloway, alone or in combination, disclose, teach, or suggest all of the limitations of claim 3, it is respectfully submitted that the rejection of claim 3 under 35 U.S.C. §103(a) as being unpatentable over Black in view of Global Engineering, and further in view of Soloway has been traversed. In addition, because claims 4-15 depend from claim 3, the rejection of those claims has been traversed for the same reasons provided above with respect to claim 3.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If, for any reason, the Examiner finds the application other than in condition for allowance, Applicants request that the Examiner contact the undersigned attorney at the Los Angeles telephone number (213) 892-5752 to discuss any steps necessary to place the application in condition for allowance.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing Docket No. 491442011621.

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